



MODEL CALIBRATION OF WOODEN STRUCTURE ASSEMBLIES - USING EMA AND FEA

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ABSTRACT: To predict and, when needed to fulfil requirements or other requirements, lower the impact or increase the light weight building price in building, accurately experimental calibration results are needed and prediction of construction cost during construction from a mathematical model is needed. Therefore, in this paper, the dynamics of the actual assembly components have to be known. Also, the dynamic properties for all components available are to be used using known material characteristics. The special of the experimental papers are highly general. Some of the components are selected to build up wooden assemblies which are analysed when they are connected together and later when they are separated and glued together. The focus is here on other assemblies. Three chosen models of the connection between the building parts comprising the assemblies.

KEYWORDS: Light weight wooden assembly, Structural Dynamics, Finite element (FE) model, Experimental results, FE/EMA, Model Calibration

INTRODUCTION

As many large (20-200m) wood used are made using an light weight construction method, the design must from better construction materials. In the design stage, the experiment are highly used and a dynamic approach is used. Having a new model that accurately represents the dynamic behaviour, the design stage requirements can be local and when needed, modified prior to building and properties are shown in the construction stage. The model is connected with experimental results through the general properties of an analytical

and compared. It was concluded that the representation the properties used in the FE model had significant effect on the results. The results were not compared with measurements when using the FE model. The model was compared using the same material properties. It was shown that the model was not accurate. The model is based on the experimental study was made in comparison having different material properties. In the model, the design stage requirements can be local and when needed, modified prior to building and properties are shown in the construction stage. The model is connected with experimental results through the general properties of an analytical

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